

Step by step Mac configuration for Fortinet device administration

Following these instructions you should be ready to roll within 10 minutes.

USED DEVICES IN THIS SETUP

- FortiGate 60D
- MacBook Pro (2015 version with Thunderbolt ports)

PRE-REQUISITES

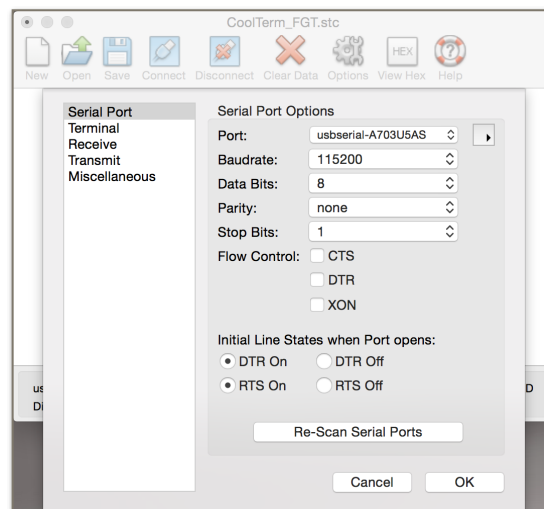
- Apple Thunderbolt/RJ45 Adapter (get one from your Apple store)
- root/admin rights on the Mac
- EXSYS USB / RS-232 Cable adapter (Also.ch can provide you one)
- EXSYS [driver for Mac's](#) (matching the Mac OS Version - in this case >10.6)
- CoolTerm [Software](#) (Terminal emulation for Mac and Windows)
- TFTP Server GUI [Software](#)

Let's get the console up and running as first step...

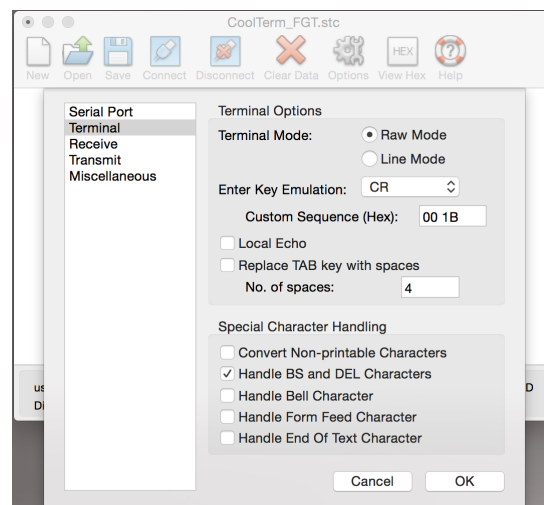
Setup for a Console prompt

1. Download and install EXSYS driver for Mac (see Pre-requisites link to the zip/dmg package and use the driver matching the Mac OS Version - in this case >10.6)
2. Connect EXSYS USB / Sub-9 cable with Sub-9 RJ45 extension
3. Plug in RJ45 connector to the Console Port on the Frontpanel of the FortiGate device
4. Plug in USB connector to you Mac
5. Download and install CoolTerm (see Pre-requisites link to the zip/dmg package — Apple recommends to install personal applications in a separate „Applications“ folder in your User subfolder and not in the general applications folder - this will enable you to store your personal applications settings for example, however it is not a must do!)

6. Startup CoolTerm and click on the „options“ Button to configure the application
 - 6.1. Select - Port: „usbserial...“
 - 6.2. Select - Baudrate: „9600“ (it's important to start with this default setting - you can change it later in your FortiGate BIOS settings if you prefer a faster rate, obviously you need to set the same rate on both ends for it to work as shown in the picture below)



- 6.3. Select - „Terminal“ options and configure the following settings
- 6.4. Select - Enter Key Emulation: „CR“
- 6.5. Check - „Handle BS and DEL Characters“



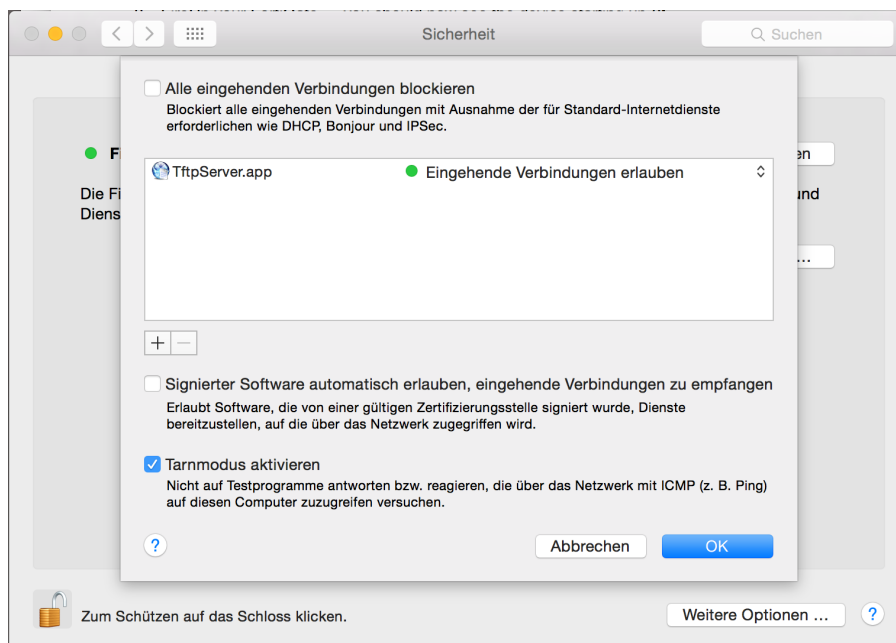
- 6.6. Comment - this is supposed to work, however the FortiGate does not respond to the ^H (backspace) command as expected. With the effect that backspace is not working as it should. It works for the login prompt (user/password) but it doesn't work as soon as you have logged in anymore. So be sure to type your commands properly until this problem gets resolved.
7. Press the „Connect“ button, and
8. FireUp your FortiGate — you should now see the device starting up (IMPORTANT: don't forget to press space bar to stop the boot up process at the BIOS prompt)

Now it's time to configure your TFTP Server!

Note: Mac OS/X comes with a TFTP server built in. But it is not started by default and you can manage it only from the command line. That works pretty well but there's an even simpler way to manage it via a GUI application. So let's install that and configure it...

Setup your TFTP Server instance

1. Download and install the TFTP Server GUI software (see Pre-requisites link to the dmg package — Apple recommends to install personal applications in a separate „Applications“ folder in your User subfolder and not in the general applications folder - this will enable you to store your personal applications settings for example, however it is not a must do!)
2. Adjust your Mac OS/X firewall settings, open up the System Preferences/Security/Firewall and click on Firewall-Options
 - 2.1. Uncheck „block all incoming connections“ (for once)
 - 2.2. Click on the „+“ Button and add the TFTP Server application
 - 2.3. Uncheck the „Allow signed applications“ flag (unless you require it), your settings should look like this...



- 2.4. Optional - Uncheck the „Stealth modus“ flag if you want to be able to ping your TFTP Server from your FortiGate (please uncheck it if your going through this process for the first time)
 - 2.5. Reminder: don't forget to change back the status of your firewall configuration when you're done with your work (your Mac will remind itself of the settings you have used and next time you uncheck the „block all incoming flag“ you will be ready right away)
6. Use Finder or a command line (Term) to create the following folder „/Users/Shared/tftpserver/fortinet“ and copy the Firmware image you want to load on your FortiGate to this folder
7. Next we need to configure the network setup, first connect the Thunderbolt adapter with an Ethernet cable
8. Plug in the Thunderbolt connector into your Mac
9. Plug in the RJ45 connector into the WAN1 Port of your FortiGate

10. Now adjust your Mac OS/X Network settings, for this open up the System Preferences/Network panel and select the „Thunderbolt-Ethernet“ device (nevermind if it says it's not active or not connected, this will be fixed automatically)
11. Set the IP v4 configuration to to: „Manual“ and configure the IP address and net mask you want your TFTP Server to respond to, now click on the Apply button
12. Now Startup TFTP Server (or switch to it if it was running already), click on the change path button and select the folder you created in step 6. You should now see the *.out file you copied into it.
13. Check the „Working path permissions“ and „Parent folders permissions“, do this on the bottom of the TFTP Server GUI. There are two buttons which should be GREEN, if not click on the Fix button right next to them to fix the problem.
14. You're almost there, now go back to CoolTerm and configure the TFTP settings at the FortiGate BIOS prompt by using the [C,P,I,S,G,T,F] and [R] options, your config should look similar to this one...

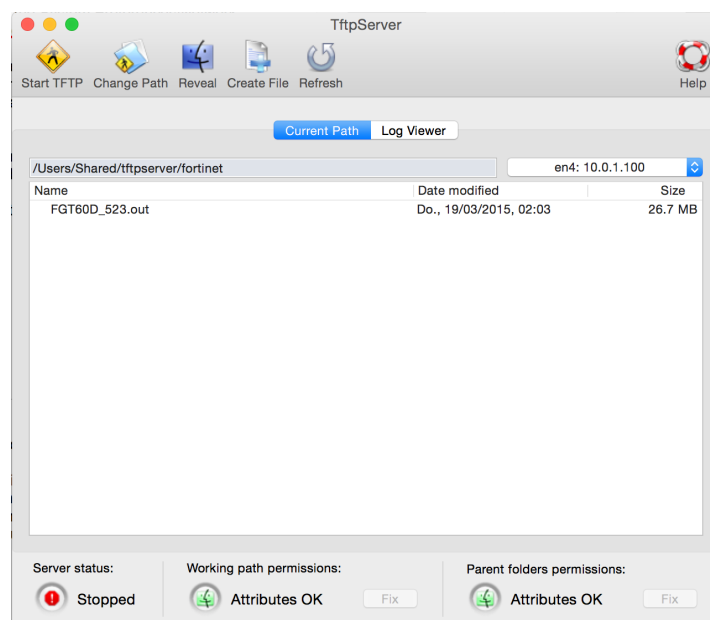
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Image download port:  WAN1
DHCP status:          Disabled
Local VLAN ID:        <NULL>
Local IP address:     10.0.1.99
Local subnet mask:    255.255.255.0
Local gateway:        10.0.1.254
TFTP server IP address: 10.0.1.100
Firmware file name:   FGT60D_523.out

Enter P,D,I,S,G,V,T,F,R,N,Q, or H:|

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15. Comment: Make sure Firmware file name matches the name of the file in the folder you created in step 6.
16. Go back to the TFTP Server GUI and Select on the upper right side from the drop down menu below the Help button the right interface and IP Address of your TFTP Server (this should be something like „en4: <ip_address“ like in the picture below)



17. FireUp your TFTP Server now by clicking on the Start TFTP button, Server status should switch to GREEN
18. Congratulations, you're all set! You can now go back to CoolTerm and the FortiGate system BIOS and enter either [F] to Format the device disk and prepare it for the Firmware installation or jump immediately to [T] to initiate the TFTP Connection and install the new Firmware